Ada
INFORMATION CLEARINGHOUSE

SUPPLEMENT 1 TO
CATALOG OF RESOURCES FOR EDUCATION IN
Ada AND SOFTWARE ENGINEERING (CREASE)
Version 5.0
March 1989

Prepared for:

Ada Joint Program Office
3D139 (1211 S. Fern, C-107)
The Pentagon
Washington, DC 20301-3081

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TO

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IN Ada AND SOFTWARE ENGINEERING (CREASE)

Version 5.0

March 1989

Prepared for:

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The Pentagon
Washington, DC 20301-3081

Prepared by:

IIT Research Institute
4600 Forbes Boulevard
Lanham, Maryland 20706

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PREFACE

The effectiveness of the Ada programming language will be determined by the degree to which people are able to use it to implement software engineering practices in applications programming. A carefully planned education and training program, which teaches both fundamental software engineering concepts and the effective use of the Ada language, is therefore essential.

This publication is intended to serve as a source of information about resources available for those who are planning such programs or planning to enroll in an Ada course. It is hoped that this catalog will serve as a ready reference for Ada course offerings and that it will also increase awareness of the many aspects of education in Ada and software engineering.

1. Introduction

This is the first supplement to the Catalog of Resources for Education in Ada and Software Engineering (CREASE) Version 5.0, which is a listing of courses and seminars that provide education and training on the Ada language and software engineering concepts. The Ada Joint Program Office (AJPO) developed CREASE to report the availability of Ada language educational resources within academic institutions and does not intend it to be a recommendation on or endorsement of any Ada resource by the AJPO or the Department of Defense.

In compiling the data for CREASE Version 5.0, the Ada Information Clearinghouse (AdaIC) surveyed academic institutions throughout the country to obtain information on current Ada language educational opportunities. More than 1,500 surveys were mailed to academic institutions, and 700 institutions that offer courses in computer science were surveyed over the telephone. The entries in this supplement to CREASE Version 5.0 were received after the document was sent to the printer.

New course offerings are presented alphabetically by state in Section 2. Changes to entries in CREASE Version 5.0 are presented in Section 3. Information on how to be included in future CREASE versions is included in Section 4. Ordering information is given in Section 5.

The AJPO intends to provide additional updates to CREASE Version 5.0 until CREASE Version 6.0 replaces it. Updates will be made available over the AJPO remote bulletin board system. Notification of changes or new offerings would be greatly appreciated.

The Ada Joint Program Office appreciates your interest in and support of the Department of Defense's Ada program.

Questions and comments should be referred to the AdaIC at (703) 685-1477.

2. New Ada Course Offerings

2.1 Ada Course Offerors in California

INTRODUCTION TO ADA LECTURE/LAB

2-Year College Offeror: San Diego Mesa College
ATTN: J. Dartt (F204)
7250 Mesa College Drive
San Diego, CA 92111
(619) 560-2801

The **objective** of this course is to introduce the student to the Ada concepts, structure, and environment. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, management overview, technical programming, and programming support environment. The **concepts** covered in this course are real time programming, exception handling, generics, strong typing, packages, and problem solving.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

A **computer running** DOS and the JANUS 1.6 **compiler** are used. Students receive **hands-on experience** with the Ada language.

This four **credit** course is taught each semester or quarter. The class meets for 18 **weeks** for a total of 36 **days** and 108 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** James W. Dartt. For more information on this course, **contact** James Dartt at the above address and phone number.

ADVANCED ADA

2 - Year College Offeror: San Diego Mesa College
7250 Mesa College Drive
San Diego, CA 92111
(619) 728-8278

The **objective** of this course is to introduce students to the power of the Ada language by using advanced techniques. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, management overview, technical programming, and programming support environment. The **concepts** covered in this course are real-time programming, exception handling, generics, strong typing, tasking, packages, abstract data types, and problem solving. The **application area** emphasized is the power of Ada.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, program managers, and software engineers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Ada As A Second Language by Norman H. Cohen. The IBM PS-2 **computer running** PC DOS and the JANUS **compiler** are used. Students receive **hands-on experience** with the Ada language.

This two **credit** course is taught each semester or quarter. The class meets for 6 **weeks** for a total of 6 **days** and 24 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** James W. Dartt and David De Witt. For more information on this course, **contact** James W. Dartt at the above address and phone number.

Offeror's comments: DoD standards are discussed and emphasized.

CIS 230 INTRODUCTION TO ADA

2 - Year College Offeror: San Diego Mesa College
7250 Mesa College Drive
San Diego, CA 92111
(619) 728-8278

The **objective** of this course is to provide students with an introduction to Ada, DoD standards, and the Ada environment. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, management overview, technical programming, and programming support environment. The **concepts** covered in this course are real-time programming, exception handling, generics, strong typing, tasking, packages, and problem solving. The **application area** emphasized is DoD applications/concepts.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Ada as a Second Language by Norman H. Cohen. The IBM PS-2 **computer running** PC DOS and the JANUS **compiler** are used. Students receive **hands-on experience** with the Ada language.

This four **credit** course is taught each semester or quarter. The class meets for 18 **weeks** for a total of 36 **days** and 216 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** James W. Dartt. For more information on this course, **contact** James Dartt at the above address and phone number.

Offeror's comments: Students receive hands-on experience with the Ada language.

SOFTWARE ENGINEERING CS 360

University Offeror: California State Polytechnic University
School of Science
Department of Computer Science
Pomona, CA 91768-4034
(714) 869-3440

The **objective** of this course is to introduce life cycle and software verification. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, management overview, technical programming, and programming support environment. The **concepts** covered in this course are exception handling, generics, strong typing, tasking, packages, abstract data types, and problem solving. The **application area** emphasized is engineering.

The **audience** of this course includes programmers and engineers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Software Engineering With Ada by Grady Booch. The SUN **computer running** UNIX is used. Students receive **hands-on experience** with the Ada language.

This four **credit** course is taught each semester or quarter. The class meets for 10 **weeks** for a total of 30 **days** and 40 **hours**. Undergraduate degree students, graduate degree candidates, and the general public are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** Ed Averill, Bruce P. Hillam, and H. Norton Riley. For more information on this course, **contact** Dr. Bruce Hillam at the above address and phone number.

SOFTWARE DESIGN METHODS

University Offeror: California State University/Fullerton
Department of Computer Science
800 North State College Blvd.
Fullerton, CA 92634
(714) 773-3700

The **objective** of this course is to teach object-oriented design methodology using Ada. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering and technical programming. The **concepts** covered in this course are real-time programming, exception handling, generics, tasking, and packages. The **application area** emphasized is real-time software engineering.

The **audience** of this course includes programmers and systems analysts. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Software Engineering With Ada by Grady Booch. The MicroVAX II **computer running** VMS and the TeleSoft **compiler** are used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught periodically. The class meets for 15 **weeks** for a total of 30 **days** and 45 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** Floyd Holliday and David Riley. For more information on this course, **contact** Floyd Holliday at the above address and phone number.

WORKSHOP IN ADA

University Offeror: California State University/Fullerton
Department of Computer Science
800 North State College Blvd.
Fullerton, CA 92634
(714) 773-3700

The **objective** of this course is to teach basic constructs of the Ada language. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) technical programming. The **concepts** covered in this course are exception handling, strong typing, packages, and abstract data types.

The **audience** of this course includes programmers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Programming in Ada by J.G.P. Barnes. The MicroVAX II **computer running** VMS and the TeleSoft **compiler** are used. Students receive **hands-on experience** with the Ada language.

This two **credit** course is taught each semester or quarter. The class meets for 15 **weeks** for a total of 15 **days** and 30 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** Floyd Holliday and David Riley. For more information on this course, **contact** Floyd Holliday at the above address and phone number.

WORKSHOP IN ADVANCED ADA

University Offeror: California State University/Fullerton
Department of Computer Science
800 North State College Blvd.
Fullerton, CA 92634
(714) 773-3700

The **objective** of this course is to teach advanced constructs of the Ada language. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) technical programming. The **concepts** covered in this course are generics, tasking, and problem solving.

The **audience** of this course includes programmers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Programming in Ada by J.G.P. Barnes. The MicroVAX II **computer running** VMS and the TeleSoft **compiler** are used. Students receive **hands-on experience** with the Ada language.

This two **credit** course is taught each semester or quarter. The class meets for 15 **weeks** for a total of 15 **days** and 30 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** David Riley. For more information on this course, **contact** Floyd Holliday at the above address and phone number.

2.2 Ada Course Offerors in Colorado

SOFTWARE ENGINEERING WITH ADA

University Offeror: U.S. Air Force Academy
Department of Computer Science
Colorado Springs, CO 80840
(303)472-2136

The **objective** of this course is to teach students the concepts and skills necessary to design, code, and test a large software project in Ada. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, and technical programming. The **concepts** covered in this course are real-time programming, exception handling, generics, strong typing, tasking, packages, abstract data types, and problem solving. The **application area** emphasized is computer science.

The **audience** of this course includes programmers, systems analysts, and engineers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Ada Language and Methodology by Watt, Wichmann, and Findlay. The VAX 11/780 **computer** is used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught periodically. The class meets for 20 **weeks** for a total of 40 **days** and 40 **hours**. Undergraduate degree students are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** Capt. David A. Cook. For more information on this course, **contact** Capt. David A. Cook at the above address and phone number.

2.3 Ada Course Offerors in Florida

EMBEDDED PROGRAMMING IN ADA

University Offeror: The University of West Florida
11000 University Parkway
Pensacola, FL 32514
(904) 474-2232

The **objective** of this course is to provide a software engineering based introduction to Ada with emphasis on embedded systems. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering and design concepts. The **concepts** covered in this course are real-time programming, exception handling, generics, strong typing, tasking, packages, abstract data types, and problem solving. The **application area** emphasized is software development.

The **audience** of this course includes programmers, systems analysts, engineers, and practicing software professionals. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Embedded Programming in Ada by Theodore F. Elbert. The IBM 4381 **computer running** VM/CMS and the TeleSoft Telegen 2 **compiler** are used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught each semester or quarter. The class meets for 15 **weeks** for a total of 45 **days** and 45 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** Theodore F. Elbert, Patrick O. Bobbie, and Kenneth M. Ford. For more information on this course, **contact** Dr. Theodore F. Elbert at the above address and phone number.

Offeror's comments: Ada is a required course in both options of the M.S. Computer Science program.

SOFTWARE ENGINEERING WITH ADA

University Offeror: Florida Institute of Technology
Department of Computer Science
150 West University Blvd.
Melbourne, FL 32901
(305) 768-8000

The **objective** of this course is to present an in-depth view of the Ada language and its supporting environment. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, technical programming, and programming support environment. The **concepts** covered in this course are exception handling, generics, strong typing, tasking, packages, abstract data types, and problem solving. The **application area** emphasized is software engineering.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Software Engineering with Ada by Grady Booch. The Harris HCX-9 **computer running** HCX/X and the Harris Ada, Version 1.3 **compiler** are used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught each semester or quarter. The class meets for 10 **weeks** for a total of 20 **days** and 30 **hours**. Graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** Luwana Sue Clever. For more information on this course, **contact** Luwana Clever at the above address and phone number.

2.4 Ada Course Offerors in Louisiana

PRINCIPLES OF PROGRAMMING LANGUAGES

University Offeror: Tulane University
301 Stanley Thomas
New Orleans, LA 70118
(504) 865-5840

The **objective** of this course is to investigate advanced features of Ada and illustrate language design principles. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering and design concepts. The **concepts** covered in this course are exception handling, generics, strong typing, tasking, packages, and abstract data types.

The **audience** of this course includes programmers and systems analysts. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Ada Reference Manual. The VAX **computer running** VMS and the TeleSoft **compiler** are used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught periodically. The class meets for 6 **weeks** for a total of 12 **days** and 18 **hours**. Undergraduate degree students and graduate degree candidates are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** Boumediene Belkhouche. For more information on this course, **contact** Boumediene Belkhouche at the above address and phone number.

Offeror's comments: The intent of using Ada is not for programming purposes but for language design purposes.

2.5 Ada Course Offerors in Maryland

ORGANIZATION OF PROGRAMMING LANGUAGES (COSC 351)

University Offeror: Morgan State University
Coldspring Lane & Hillen Road
Baltimore, MD 21239
(301) 444-3240

The **objective** of this course is to provide an overview of the features of various programming languages, including Ada. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) design concepts. The **concepts** covered in this course are generics, strong typing, packages, abstract data types, and problem solving.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text An Introduction to Ada by Stephen J. Young. The VAX 11/780 **computer running** VMS and the TeleSoft TeleGen 2, Version 3.15 **compiler** are used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught each semester or quarter. The class meets for 15 **weeks** for a total of 45 **days** and 45 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** Stephen J. Gewirtz. For more information on this course, **contact** Stephen J. Gewirtz at the above address and phone number.

CMSC 220 INTRODUCTION TO PROGRAMMING IN ADA

University Offeror: University of MD Baltimore County
5401 Wilkens Avenue
Baltimore, MD 21228
(318) 455-3000

The **objective** of this course is to cultivate student understanding sufficient to allow immediate use of Ada and continued growth. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, technical programming, and programming support environment. The **concepts** covered in this course are exception handling, generics, strong typing, packages, abstract data types, and problem solving. The **application area** emphasized is block structured programming.

The **audience** of this course includes programmers, systems analysts, and technical managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Programming in Ada by J.G.P. Barnes. The VAX 8600 **computer running** VMS 4.7 is used. Students receive **hands-on experience** with the Ada language.

This one **credit** course is taught each semester or quarter. The class meets for 14 **weeks** for a total of 14 **days** and 14 **hours**. Undergraduate degree students, graduate degree candidates, and the general public are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** Larry Moritz. For more information on this course, **contact** Larry Moritz or Keith Humenik at the above address and phone number.

SOFTWARE ENGINEERING WITH ADA 605.429

University Offeror: The Johns Hopkins University
Continuing Professional Program
GWC Whiting School of Engineering
Baltimore, MD 21218
(301) 338-8728

The **objective** of this course is to cover the syntax, semantics, and relevant software engineering methodologies of Ada. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, and technical programming. The **concepts** covered in this course are exception handling, generics, tasking, packages, and abstract data types.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Software Engineering With Ada by Grady Booch. The VAX **computer running** VMS and the DEC Ada **compiler** are used. Students receive **hands-on experience** with the Ada language.

The class meets for 15 **weeks** for a total of 15 **days** and 45 **hours**. Graduate degree candidates are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** Gralia and Ferguson.

2.6 Ada Course Offerors in Michigan

ADVANCED PROGRAMMING LANGUAGE CONCEPTS

University Offeror: Michigan Technological University
Department of Computer Science
Houghton, MI 49931
(906) 487-2183

The **objective** of this course is to survey advanced language issues. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) technical programming. The **concepts** covered in this course are exception handling, generics, strong typing, tasking, packages, and abstract data types.

The **audience** of this course includes programmers and technical managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The IBM 4381 **computer running** CP/VM and the A370, Version 1.0 **compiler** are used. Students receive **hands-on experience** with the Ada language.

This four **credit** course is taught periodically. The class meets for 10 **weeks** for a total of 3 **days** and 30 **hours**. Undergraduate degree students, graduate degree candidates, and the military/DoD are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** Dr. John Lowther. For more information on this course, **contact** Dr. John Lowther at the above address and phone number.

Offeror's comments: MTU is one of the largest U.S. universities in terms of undergraduate engineering enrollments.

2.7 Ada Course Offerors in Mississippi

ADA PROGRAMMING LANGUAGE LAB

University Offeror: Mississippi State University
Computer Science Department
Drawer CS
Mississippi State, MS 39762
(601) 325-2756

The **objective** of this course is to introduce the rudiments of the Ada programming language. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) technical programming. The **concepts** covered in this course are exception handling, generics, strong typing, tasking, packages, and problem solving.

The **audience** of this course includes programmers and engineers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Programming in Ada by J.G.P. Barnes. The Sperry personal **computer running** MS-DOS and the JANUS Ada **compiler** are used. Students receive **hands-on experience** with the Ada language.

This one **credit** course is taught each semester or quarter. The class meets for 15 **weeks** for a total of 15 **days** and 45 **hours**. Undergraduate degree students and graduate degree candidates are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** Charles G. Petersen. For more information on this course, **contact** Charles G. Petersen at the above address and phone number.

2.8 Ada Course Offerors in New Jersey

ADA REAL-TIME SOFTWARE DESIGN METHODS, MODELS, & TOOLS

4 - Year College Offeror: Monmouth College
Office of Continuing Education
West Long Branch, NJ 07764
(201) 571-3457

The **objective** of this course is to instruct Ada software engineers, designers, and technical managers in the use of Ada for real-time systems. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, management overview, and technical programming. The **concepts** covered in this course are real-time programming and tasking.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

Students receive **hands-on experience** with the Ada language.

The class meets for 1 **week(s)** for a total of 5 **days** and 38 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** Mr. Walter A. Rolling. For more information on this course, **contact** Irwin L. Shapiro, Ph.D. at the above address and phone number.

2.9 Ada Course Offerors in New York

COMPUTER PROGRAMMING AND PROBLEM SOLVING

University Offeror: Rochester Institute of Technology
Department of Applied Computer Studies
One Lomb Memorial Drive
Rochester, NY 14623-0087
(716) 475-2161

The **objective** of this course is to teach Ada programming. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, technical programming, and programming support environment. The **concepts** covered in this course are exception handling, generics, strong typing, tasking, packages, abstract data types, and problem solving.

The **audience** of this course includes programmers, systems analysts, engineers, and program managers. There are no **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Software Engineering with Ada by Grady Booch. The VAX **computer running** VMS and the DEC Ada **compiler** are used. Students receive **hands-on experience** with the Ada language.

This four **credit** course is taught periodically. The class meets for 10 **weeks** for a total of 20 **days** and 40 **hours**. Graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** William S. Stratton, Allen R. Kaminsky, and Peter G. Anderson. For more information on this course, **contact** Guy Johnson at the above address and phone number.

2.10 Ada Course Offerors in North Carolina

SOFTWARE ENGINEERING USING ADA

University Offeror: North Carolina A & T State University
Department of Computer Science
Greensboro, NC 27411
(919) 334-7823

The **objective(s)** of this course is (are) to give a complete overview and experience in Ada and to develop software engineering and design techniques. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, and technical programming. The **concepts** covered in this course are exception handling, generics, strong typing, tasking, packages, and abstract data types.

The **audience** of this course includes programmers, engineers, and Computer Science majors. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Ada Language and Methodology by Watt, Wichmann, and Findlay. The VAX 11-785 **computer running** VMS 4.5 and the DIGITAL VAX Ada **compiler** are used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught each semester or quarter. The class meets for 16 **weeks** for a total of 48 **days** and 48 **hours**. Undergraduate degree students and graduate degree candidates are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** Robert C. Mers. For more information on this course, **contact** Dr. Robert C. Mers at the above address and phone number.

Offeror's comments: This elective course is designed to prepare students to work in an Ada language software engineering environment.

2.11 Ada Course Offerors in Ohio

CSP 150 ALGORITHMS AND PROGRAMMING I

University Offeror: University of Dayton
Computer Science Department
300 College Park
Dayton, OH 45469
(513) 229-3831

The **objective** of this course is to develop an understanding of Ada for students with no previous knowledge of Ada. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) design concepts and technical programming. The **concepts** covered in this course are strong typing and problem solving. The **application area** emphasized is introductory programming.

The **audience** of this course includes programmers, systems analysts, and engineers. There are no **prerequisites** that must be satisfied before enrolling in this course. No previous computer **programming experience** is necessary.

The **course materials** include the text An Introduction to Computer Science in Ada by L. Winslow. The IBM personal **computer running** PC DOS and the JANUS ADA **compiler** are used. Students receive **hands-on experience** with the Ada language.

This four **credit** course is taught each semester or quarter. The class meets for 14 **weeks** for a total of 42 **days** and 42 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** Joseph E. Lang, Robert K. Maruyama, and Leon E. Winslow. For more information on this course, **contact** Joseph E. Lang at the above address and phone number.

Offeror's comments: This is a beginner course in Ada. Emphasis is placed on external procedures and functions.

CPS 144/592 SP. TOPICS: ADA

University Offeror: University of Dayton
Computer Science Department
300 College Park
Dayton, OH 45469
(513) 229-3831

The **objective** of this course is to teach experienced programmers how to use Ada. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, and technical programming. The **concepts** covered in this course are exception handling, generics, strong typing, packages, and abstract data types. The **application area** emphasized is general programming in Ada.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Understanding Ada by Shumate. The DEC VAX/780 **computer running** VMS and the DEC Ada **compiler** are used. Students receive **hands-on experience** with the Ada language.

This one **credit** course is taught each semester or quarter. The class meets for 10 **weeks** for a total of 10 **days** and 14 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** Thomas A. Schoer and Robert K. Maruyama. For more information on this course, **contact** Robert K. Maruyama at the above address and phone number.

Offeror's comments: This course is a seminar that presents Ada as a "second" language.

CPS 499/592 SP. TOPICS: ADVANCED ADA

University Offeror: University of Dayton
Computer Science Department
300 College Park
Dayton, OH 45469
(513) 229-3831

The **objective** of this course is to teach experienced Ada programmers how to use special features. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, technical programming, and programming support environment. The **concepts** covered in this course are real-time programming, exception handling, generics, strong typing, tasking, packages, abstract data types, and problem solving. The **application area** emphasized is specialized applications.

The **audience** of this course includes programmers, systems analysts, and engineers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The DEC VAX 780 **computer running** VMS and the DEC Ada **compiler** are used. Students receive **hands-on experience** with the Ada language.

This one **credit** course is taught periodically. The class meets for 10 **weeks** for a total of 10 **days** and 14 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** Robert K. Maruyama. For more information on this course, **contact** Robert K. Maruyama at the above address and phone number.

Offeror's comments: A strong discussion of tasking is presented in this course.

2.12 Ada Course Offerors in Pennsylvania

COMP 409 ADVANCED ADA

University Offeror: The Pennsylvania State University
Harrisburg Campus
Ada Education Center
Middletown, PA 17057
(717) 948-6082

The **objective** of this course is to give extensive treatment of advanced Ada features, i.e., generics, tasking, exceptions. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, and technical programming. The **concepts** covered in this course are real-time programming, exception handling, generics, tasking, and problem solving.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Ada As A Second Language by Norman H. Cohen. The Data Gen Eclipse MV/10000 or PC/AT **computer running** AOS/VS and the Rolm/DG **compiler** are used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught periodically. The class meets for 15 **weeks** for a total of 75 **days** and 45 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** M. Susan Richman, Ph.D. For more information on this course, **contact** M. Susan Richman, Ph.D. at the above address and phone number.

Offeror's comments: This course includes work of team projects involving tasking and generics.

ADA FOR COMPUTER PROFESSIONALS

University Offeror: The Pennsylvania State University
Harrisburg Campus
Ada Education Center
Middletown, PA 17057
(717) 948-6082

The **objective** of this course is to introduce Ada to computer professionals, including faculty. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, and technical programming. The **concepts** covered in this course are exception handling, generics, strong typing, tasking, packages, abstract data types, and problem solving.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text An Introduction to Ada by S.J. Young. The Data General Eclipse MV/10000 or PC/AT **computer running** AOS/VS and the Rolm/DG **compiler** are used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught periodically. The class meets for 1 **week(s)** for a total of 5 **days** and 40 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** M. Susan Richman, Ph.D. For more information on this course, **contact** M. Susan Richman, Ph.D. at the above address and phone number.

Offeror's comments: Extensive programming exercises in all Ada features except tasking and low-level I/O are required.

2.13 Ada Course Offerors in Tennessee

SOFTWARE ENGINEERING CS 352

University Offeror: Vanderbilt University
School of Engineering
Department of Computer Science
Nashville, TN 37235
(615) 322-2924

The **objective** of this course is to describe the concepts and principles of software engineering using Ada to illustrate them. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, management overview, technical programming, and programming support environment. The **concepts** covered in this course are real-time programming, exception handling, generics, strong typing, tasking, packages, abstract data types, and problem solving. The **application area** emphasized is software engineering.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Software Engineering Methodologies & Management by Stephen R. Schach. The SUN **computer running** UNIX and the VERDIX **compiler** are used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught each semester or quarter. The class meets for 15 **weeks** for a total of 3 **days** and 45 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** Dr. Stephen R. Schach. For more information on this course, **contact** Dr. Stephen R. Schach at the above address and phone number.

2.14 Ada Course Offerors in Texas

SOFTWARE ENGINEERING WITH ADA

2 - Year College Offeror: Amarillo College
P.O. Box 447
Amarillo, TX 79178-0001
(806) 371-5000

The **objective** of this course is to introduce software engineering specifications for design and implementation. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, management overview, technical programming, and programming support environment. The **concepts** covered in this course are exception handling, generics, strong typing, tasking, packages, abstract data types, and problem solving.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The IBM AT **computer running** MS DOS/OS-2 and the JANUS **compiler** are used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught periodically. The class meets for 16 **weeks** for a total of 48 **days** and **hours**. Undergraduate degree students, the general public, and the military/DoD are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** H. Paul Haiduk. For more information on this course, **contact** H. Paul Haiduk at the above address and phone number.

2.15 Ada Course Offerors in Washington

COMPUTER SCIENCE II

University Offeror: University of Washington
Computer Science Department
Mail Stop FR-35
Seattle, WA 98195
(206) 543-1695

The **objective** of this course is to cover intermediate programming and concentrate on specific packages (often ADIs). This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering. The **concepts** covered in this course are exception handling, generics, strong typing, packages, abstract data types, and problem solving. The **application area** emphasized is programming.

The **audience** of this course includes programmers and Arts and Sciences students. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Data Structures With Ada by Michael Feldman. The VAX 8650 **computer running** VMS and the DEC Ada **compiler** are used. Students receive **hands-on experience** with the Ada language.

This five **credit** course is taught each semester or quarter. The class meets for 10 **weeks** for a total of 50 **days** and 50 **hours**. Undergraduate degree students and graduate degree candidates are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** Richard E. Pattis. For more information on this course, **contact** Richard E. Pattis at the above address and phone number.

COMPUTER SCIENCE II

University Offeror: University of Washington
Computer Science Department
Mail Stop FR-35
Seattle, WA 98195
(206) 543-1695

The **objective** of this course is to teach novice programmers the syntax, semantics, pragmatics, and ethics of programming in Ada. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering. The **concepts** covered in this course are exception handling, generics, strong typing, packages, abstract data types, and problem solving. The **application area** emphasized is programming.

There are no **prerequisites** that must be satisfied before enrolling in this course. No previous computer **programming experience** is necessary.

The **course materials** include the text Ada Language & Methodology by Watt, Wichmann, Findlay. The VAX 8650 **computer running** VMS and the DEC Ada **compiler** are used. Students receive **hands-on experience** with the Ada language.

This five **credit** course is taught each semester or quarter. The class meets for 10 **weeks** for a total of 50 **days** and 50 **hours**. Undergraduate degree students and graduate degree candidates are **eligible** to participate in this course. The course is not available for **graduate credit**.

This course is **taught by** Richard E. Pattis. For more information on this course, **contact** Richard E. Pattis at the above address and phone number.

Offeror's comments: Students who enroll in this course are freshmen and sophomore science, engineering, and pre-computer science majors.

2.16 Ada Course Offerors in West Virginia

SOFTWARE ENGINEERING IN ADA, IS 625

Offeror: WV College of Graduate Studies
Engineering and Science Division
Institute, WV 25112
(304) 768-9711

The **objective** of this course is to acquire the principles of programming in the large. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering, design concepts, and programming support environment. The **concepts** covered in this course are exception handling, generics, strong typing, tasking, packages, and abstract data types. The **application area** emphasized is software engineering.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Software Engineering With Ada by Grady Booch. The VAX **computer running** VMS and the DEC VAX **compiler** are used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught periodically. The class meets for 15 **weeks** for a total of 15 **days** and 45 **hours**. Graduate degree candidates are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** Robert N. Hutton. For more information on this course, **contact** Robert N. Hutton at the above address and phone number.

Offeror's comments: This course and IS 525 can constitute a "structured minor" for credit in the M.S. Information Systems program.

INTRODUCTION TO ADA PROGRAMMING, IS 525

Offeror: WV College of Graduate Studies
Engineering and Science Division
Institute, WV 25112
(304) 768-9711

The **objective** of this course is to become familiar with the syntax and semantics of Ada statements. This course is **taught** as a class lecture/seminar. The **thrust(s)** of the course is (are) software engineering and design concepts. The **concepts** covered in this course are exception handling, generics, strong typing, tasking, packages, and abstract data types.

The **audience** of this course includes programmers, systems analysts, engineers, technical managers, and program managers. There are no **prerequisites** that must be satisfied before enrolling in this course. Previous computer **programming experience** is advised.

The **course materials** include the text Programming in Ada by J.G.P. Barnes. The VAX **computer running** VMS and the DEC VAX **compiler** are used. Students receive **hands-on experience** with the Ada language.

This three **credit** course is taught periodically. The class meets for 15 **weeks** for a total of 15 **days** and 45 **hours**. Undergraduate degree students, graduate degree candidates, the general public, and the military/DoD are **eligible** to participate in this course. The course is available for **graduate credit**.

This course is **taught by** Robert N. Hutton. For more information on this course, **contact** Robert N. Hutton at the above address and phone number.

3. Changes to Entries in CREASE Version 5.0

This section provides correction to four CREASE Version 5.0 entries.

3.1 Florida State University

Course Title: SOFTWARE ENGINEERING WITH ADA

Reference CREASE 5.0: page 38

The thrusts of the course is software engineering and design concepts.

The primary course textbook is Abstraction & Specification in Program Development by Liskow and Guttag.

The course is taught periodically.

3.2 University of Georgia

Course Title: SOFTWARE ENGINEERING

Reference CREASE 5.0: page 47

The concepts covered include exception handling, generics, strong typing, tasking, packages, abstract data types, and problem solving.

The primary course textbook is Programming in Ada by J.G.P. Barnes.

The SUN computer running UNIX is used.

The course is taught by Dr. Orville R. Weyrich, Jr.

3.3 Boston University

Course Title: SC 525 EMBEDDED COMPUTER SOFTWARE DESIGN

Reference CREASE 5.0: page 100

This four credit course is taught periodically. The class meets for 14 weeks for a total of 28 days and 56 hours.

Course Title: INTRODUCTION TO ADA

Reference CREASE 5.0: page 101

This two credit course is taught each semester. The class meets for 14 weeks for a total of 28 days and 28 hours. the course is not offered for graduate credit.

4. How to be Included in Future CREASE Editions

If you did not receive a questionnaire for CREASE Version 5.0 and would like to provide information for future CREASE editions, please complete the following form and return it to the AdaIC. Your name will be added to the AdaIC mailing list and you will automatically receive a questionnaire before the next publication of CREASE.

ORGANIZATION: _____

ADDRESS: _____

CITY: _____

STATE: _____

ZIP: _____

TELEPHONE: _____

RETURN TO:

Ada Information Clearinghouse
3D139 (1211 Fern, C-107)
The Pentagon
Washington, DC 20301-3081
(703) 685-1477

5. CREASE Version 5.0 Ordering Information

CREASE is available from the Defense Technical Information Center (DTIC) and from the National Technical Information Service (NTIS). DTIC distributes documents only to military, government, or defense contractors who are registered users of DTIC. All documents that are input to DTIC and are marked UNCLASSIFIED/UNLIMITED are automatically forwarded to NTIS. NTIS distributes documents to the general public at a cost. Each document is referenced by an accession number, which is the same for both DTIC and NTIS. The accession number for CREASE Version 5.0 is AD A195 539.

DTIC
Defense Technical Information Center
Cameron Station
Alexandria, VA 22314
(703) 274-7633

NTIS
National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4650

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